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**PART D**  
**LADDERS, BULK STORAGE, PITS, AND**  
**TRENCHES**

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**WAC 296-307-055 Ladders.**

[Recodified as § 296-307-055. 97-09-013, filed 4/7/97, effective 4/7/97. Statutory Authority: RCW 49.17.040, [49.17.]050 and [49.17.]060. 96-22-048, § 296-306A-055, filed 10/31/96, effective 12/1/96.]

**WAC 296-307-05501 How must ladders be cared for and maintained?**

- (1) Ladders must be checked for defects before use, and thoroughly inspected periodically. Ladders shall be inspected immediately in the following situations:
  - (a) If a ladder tips over, inspect for side rails dents or bends, or excessively dented rungs; check all rung-to-side-rail connections; check hardware connections; check rivets for shear.
  - (b) If a ladder is exposed to excessive heat, inspect visually for damage and test for deflection and strength characteristics. If you are unsure about the ladder's condition, seek help from the manufacturer.
- (2) Ladders must be maintained in good condition at all times. Joints between steps and side rails must be tight. All hardware and fittings must be securely attached, and the moveable parts must operate freely without binding or with too much play.
- (3) Defective ladders must be withdrawn from service for repair or destruction and tagged as "Dangerous-Do not use."
- (4) Ladders with broken or missing steps, rungs, or cleats, broken side rails, or other faulty equipment must not be used; improvised repairs must not be made.
- (5) Ladders must be handled with care. Avoid unnecessary dropping, jarring, or misuse.
- (6) Ladder storage must:
  - (a) Protect the ladder when not in use;
  - (b) Provide sufficient support to prevent excessive sagging;
  - (c) Provide ease of access or inspection; and
  - (d) Prevent danger of accidents when withdrawing a ladder for use.

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**WAC 296-307-05503 How must an employer instruct employees to use ladders?**

- (1) At the beginning of employment, you must provide employees with orientation and training on the proper use of ladders, including how to set a ladder and properly dismount with a full load.
- (2) To prevent ladder upset, you must instruct employees to avoid overreaching while standing on the ladder.
- (3) You must instruct employees that before climbing ladders; rungs, shoes, and boots must be clean of substances that would make them hazardous.
- (4) Employees must not climb up or down ladders while carrying tools or materials that interfere with the free use of both hands.
- (5) Ladders must not be placed on boxes, barrels, or other unstable bases to obtain additional height.
- (6) Stepladders must not be used as single ladders.
- (7) When working from a ladder over twenty-five feet from the ground or floor, the ladder must be secured at both top and bottom. When work on a ladder over twenty-five feet from the ground or floor requires the use of both hands, a safety belt must be worn and the safety lanyard secured to the ladder.
- (8) Portable ladders must be placed so that the side rails have a secure footing. The top rest for portable rung and cleat ladders must be reasonably rigid and strong enough to support the applied load. The top of the ladder must be placed with the two rails supported, unless equipped with a single support attachment. Such an attachment should be substantial and large enough to support the ladder under load.
- (9) Ladders carried on vehicles should be adequately supported to avoid sagging and securely fastened in position to minimize chafing and the effects of road shocks.

[Recodified as § 296-307-05503. 97-09-013, filed 4/7/97, effective 4/7/97. Statutory Authority: RCW 49.17.040, [49.17.]050 and [49.17.]060. 96-22-048, § 296-306A-05503, filed 10/31/96, effective 12/1/96.]

**WAC 296-307-05505 How must orchard ladders be used?**

- (1) Orchard ladders longer than sixteen feet are prohibited.
- (2) Employers must instruct employees to not stand on the top two steps (the top cap and the next step down) of orchard ladders.
- (3) Employers must instruct employees to not step off the ladder onto branches of trees except onto the main crotch.
- (4) Standing on the top two steps of the orchard ladder is prohibited.

[Recodified as § 296-307-05505. 97-09-013, filed 4/7/97, effective 4/7/97. Statutory Authority: RCW 49.17.040, [49.17.]050 and [49.17.]060. 96-22-048, § 296-306A-05505, filed 10/31/96, effective 12/1/96.]

**WAC 296-307-05507 What other requirements apply to ladders?**

- (1) Ladders made by fastening cleats across a single rail are prohibited.
- (2) Wood ladders, when not in use, should be stored where they will not be exposed to the elements, but where there is good ventilation. They must be stored away from radiators, stoves, steam pipes, or other excessive heat or dampness.

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**WAC 296-307-05507 (Cont.)**

- (3) Wooden ladders should be kept coated with a suitable protective material. Painted ladders are acceptable if the ladders are carefully inspected prior to painting by competent and experienced inspectors acting for, and responsible to, the purchaser, and if the ladders are not for resale.
- (4) A ladder must have feet that are appropriate for the surface on which it will be used.  
  
For example: A ladder used on a slippery surface must have steel points or other nonslip material on its feet.
- (5) Ladders must not be placed in front of doors opening toward the ladder unless the door is blocked open, locked, or guarded.
- (6) Ladder safety devices may be used on tower, water tank and chimney ladders over twenty feet long in place of cage protection. No landing platform is required in these cases. All ladder safety devices such as lifebelts, friction brakes, and sliding attachments must meet the design requirements of the ladders that they serve.

- (7) See chapter 296-307 WAC Part K for requirements related to working near overhead lines.

[Statutory Authority: Chapter 49.17.040 RCW. 98-24-096 (Order 98-13), § 296-307-05507, filed 12/01/98, effective 03/01/99  
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**WAC 296-307-060 What requirements apply to job-made ladders?** A “job-made ladder” is a ladder that you or your employees build.

Job-made ladders must meet the following requirements:

- (1) All cleats must be made of one-by-four-inch nominal lumber, or stronger.
- (2) Cleats must be inset into the edges of side rails to a depth of one-half inch, or filler blocks must be used on the rails between the cleats.
- (3) Each cleat must be fastened to each rail with three 8d common wire nails or other fasteners of equal strength.
- (4) Cleats must be uniformly spaced approximately 12 inches from the top of one cleat to the top of the next.
- (5) Side rails must be continuous, unless splices develop the full strength of a continuous rail of equal length.  
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**WAC 296-307-061 What requirements apply to working around bins, bunkers, hoppers, tanks, pits, and trenches?**

- (1) Employees must be prohibited from entering any bin, bunker, hopper, or similar area when loose materials (such as chips, sand, grain, gravel, sawdust, etc.) may collapse, unless the employee wears a safety belt with a lifeline attached and is attended by a helper.

*Note: Silage pits are exempt from this section.*

- (2) When employees are required to work in a trench or a pit 4 feet deep or more, the trench or the pit must be shored or sloped according to the following table:

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**WAC 296-307-061 (Cont.)**

Soil or Rock Type	Maximum allowable slopes (H:V) <sup>1</sup> for excavations less than 20 feet deep <sup>2</sup>
stable rock	vertical (90°)
type A	3/4:1 (53°)
type B	1:1 (45°)
type C	1 1/2:1 (34°)
<sup>1</sup> Numbers in parentheses next to maximum allowable slopes are angles in degrees from the horizontal. Angles have been rounded off. <sup>2</sup> Sloping or benching for excavations greater than 20 feet deep must be designed by a registered professional engineer.	

- (3) Each soil and rock deposit must be classified by a competent person as Stable Rock, Type A, B, or C according to the definitions in WAC 296-155-66401. **“Competent person”** means someone who is able to identify working conditions that are hazardous to employees, and has authority to take prompt action to eliminate the hazards.
- (4) Classification of the deposits must be based on the results of at least one visual and at least one manual analysis. The analyses must be conducted by a competent person using tests in recognized methods of soil classification and testing such as those adopted by the American Society for Testing Materials, or the U.S. Department of Agriculture textural classification system.

[Recodified as § 296-307-061. 97-09-013, filed 4/7/97, effective 4/7/97. Statutory Authority: RCW 49.17.040, [49.17.]050 and [49.17.]060. 96-22-048, § 296-306A-061, filed 10/31/96, effective 12/1/96.]